

IN THE CLAIMS:

Please cancel Claims 15, 18, 33, and 36, without prejudice or disclaimer.

Please amend Claims 1-10, 12-14, 16, 17, 19-32, 34, 35, and 37-40, and add new Claims 41-44, as indicated below. The following is a complete listing of claims and replaces all prior versions and listings of claims in the present application:

Claim 1 (currently amended): A method of processing a digital signal identified by a unique identifier in a distributed communication network composed of several communication apparatuses, comprising [[the]] steps of:

- storing at least a part of [[the]] data constituting the identified digital signal in a local storage located in one of the communication apparatuses; and

- managing two descriptors related to the unique identifier within the local storage, the two descriptors including a first descriptor<sub>1</sub> which provides a description representing [[the]] a structure and [[the]] an organization of the data constituting the identified digital signal<sub>1</sub> and a second descriptor<sub>2</sub> which is dependent on the first descriptor and representative of the part of the data stored in the local storage<sub>2</sub>

wherein the data constituting the identified digital signal is in a multiresolution format and wherein the second descriptor has a hierarchical structure related to the multiresolution format.

Claim 2 (currently amended): A method according to claim 1, further comprising a step of updating the second descriptor as a function of the part of the data ~~representative of~~ constituting the identified digital signal received and stored in the local storage.

Claim 3 (currently amended): A method according to claim 1, further comprising a step of sending from a server apparatus, a notification of availability of the identified digital signal to at least one client apparatus in the communication network, including the first descriptor of the identified digital signal.

Claim 4 (currently amended): A method according to claim 3, further comprising steps, performed by [[a]] the server apparatus in the communication network, of:

- receiving from a client apparatus a request containing the unique identifier;

and

- sending to the client apparatus the second descriptor related to the unique identifier and representative of the part of the data ~~relative to~~ constituting the identified digital signal stored in the local storage, if the unique identifier is known by the server apparatus.

Claim 5 (currently amended): A method according to claim 1, further comprising steps, performed by a server apparatus in the communication network, of:

- receiving from a client apparatus a request containing the unique identifier;

and

- sending to the client apparatus the second descriptor related to the unique identifier and representative of the part of the data relative to constituting the identified digital signal stored in the local storage, if the unique identifier is known by the server apparatus.

Claim 6 (currently amended): A method according to claim 5, further comprising steps, performed by ~~[[a]]~~ the server apparatus in the communication network, of:

- receiving from ~~[[a]]~~ the client apparatus one request ~~[[of]]~~ for data relative to the identified signal;
- retrieving ~~[[in]]~~ from the local storage at least part of the requested data; and
- sending to the client apparatus the at least part of the requested data retrieved from the local storage.

Claim 7 (currently amended): A method according to claim 2, further comprising steps, performed by a server apparatus in the communication network, of:

- receiving from a communication apparatus one request ~~[[of]]~~ for data relative to the identified digital signal and one second descriptor representative of ~~[[the]]~~ data ~~[[which]]~~ that is locally present ~~on the client apparatus at the origin of~~ at the communication apparatus from where the request originated;
- retrieving ~~[[in]]~~ from the local storage at least part of the requested data;

- sending to the ~~client~~ communication apparatus ~~at the origin of~~ from where the request originated the at least part of the requested data retrieved from the local storage;  
and

- updating the one second descriptor as a function of the at least part of the requested data ~~which has been~~ sent in the sending step.

Claim 8 (currently amended): A method according to claim 7, further comprising a step, performed by ~~[[a]]~~ the server apparatus in the communication network, of sending to another server apparatus the updated second descriptor and the request ~~[[of]]~~ for data, which has been modified to take into account the at least part of the requested data ~~which has been~~ previously sent by the server apparatus.

Claim 9 (currently amended): A method according to claim 1, further comprising steps, performed by a client apparatus in the communication network prior to ~~[[said]]~~ the storing step, of:

- receiving the first descriptor representative of the identified digital signal; and
- storing the first descriptor in the local storage.

Claim 10 (currently amended): A method according to claim 9, further comprising a step, performed by a client apparatus in the communication network, of receiving a notification of availability of the data ~~relative~~ constituting the identified digital signal and corresponding to the unique identifier.

Claim 11 (previously presented): A method according to claim 9, further comprising a step, performed by a client apparatus in the communication network, of sending to at least one server apparatus at least one request containing the unique identifier.

Claim 12 (currently amended): A method according to claim 11, further comprising steps, performed by a client apparatus in the communication network for retrieving at least a part of the identified digital signal, of:

- receiving at least one second descriptor representative of the data locally present on at least one server; and

- issuing at least one request for data, directed to the at least one server, as a function of the first descriptor and the at least one second descriptor.

Claim 13 (currently amended): A method according to claim 12, further comprising a step, performed by a client apparatus in the communication network, of receiving from at least one server at least part of the data constituting the identified digital signal and which has been specified in a previously sent request for data.

Claim 14 (currently amended): A method according to claim 9, further comprising a step, performed by a client apparatus in the communication network, of sending to at least one server at least one request for data as a function of the received first descriptor, and the second descriptor representative of the data locally present on the client apparatus.

Claim 15 (cancelled).

Claim 16 (currently amended): A method according to claim [[15]] 1, wherein the first descriptor is representative of all available resolutions and their representation units (precincts) in a compressed format.

Claim 17 (currently amended): A method according to claim 16, wherein the second descriptor is representative of the units (precincts) of the compressed format (~~precincts~~) as referenced in the first descriptor.

Claim 18 (cancelled).

Claim 19 (currently amended): A device for processing a digital signal, the digital signal being identified by a unique identifier in a distributed communication network composed of several communication apparatuses, comprising:

- means [[of]] for storing at least a part of [[the]] data constituting the identified digital signal in a local storage located in one of the communication apparatuses;

and

- means [[of]] for managing two descriptors related to the unique identifier within the local storage, the two descriptors including a first descriptor, which provides a description representing [[the]] a structure and [[the]] an organization of the data

constituting the identified digital signal<sub>2</sub> and a second descriptor<sub>2</sub> which is dependent on the first descriptor and representative of the part of the data stored in the local storage<sub>2</sub>

wherein the data constituting the identified digital signal is in a multiresolution format and wherein the second descriptor has a hierarchical structure related to the multiresolution format.

Claim 20 (currently amended): A device according to claim 19, further comprising means [[of]] for updating the second descriptor as a function of the part of the data ~~representative of~~ constituting the identified digital signal received and stored in the local storage.

Claim 21 (currently amended): A device according to claim 19, further comprising means [[of]] for sending from a server apparatus, a notification of availability of the identified digital signal to at least one client apparatus in the communication network, including the first descriptor of the identified digital signal.

Claim 22 (currently amended): A device according to claim 21, ~~further comprising, in~~

wherein the device is part of a system in the communication network,

wherein the system includes a server apparatus in the communication network<sub>2</sub>

and

wherein the server apparatus includes:

- means [[of]] for receiving from a client apparatus a request containing the unique identifier; and

- means [[of]] for sending to the client apparatus the second descriptor related to the unique identifier and representative of the part of the data relative to the identified digital signal stored in the local storage, if the unique identifier is known by [[said]] the server apparatus.

Claim 23 (currently amended): A device according to claim 19, ~~further comprising, in~~  
wherein the device is part of a system in the communication network,  
wherein the system includes a server apparatus in the communication network,  
and  
wherein the server apparatus includes:

- means [[of]] for receiving from a client apparatus a request containing the unique identifier; and

- means [[of]] for sending to the client apparatus the second descriptor related to the unique identifier and representative of the part of the data ~~relative to~~  
constituting the identified digital signal stored in the local storage, if the unique identifier is known by [[said]] the server apparatus.

Claim 24 (currently amended): A device according to claim 23, ~~further comprising, in a~~  
wherein the server apparatus in the communication network includes:

- means [[of]] for receiving from [[a]] the client apparatus one request  
[[of]] for data relative to the identified digital signal;



- means [[of]] for retrieving [[in]] from the local storage at least part of the requested data; and

- means [[of]] for sending to the client apparatus the at least part of the requested data retrieved from the local storage.

Claim 25 (currently amended): A device according to claim 20, ~~further comprising, in~~

wherein the device is part of a system in the communication network,

wherein the system includes a server apparatus in the communication network,

and

wherein the server apparatus includes:

- means [[of]] for receiving from a communication apparatus one request of data relative to the identified digital signal and one second descriptor representative of [[the]] data [[which]] that is locally present ~~on a client at the~~ communication apparatus ~~at the origin of~~ from where the request originated;

- means [[of]] for retrieving [[in]] from the local storage at least part of the requested data;

- means [[of]] for sending to the ~~client~~ communication apparatus ~~at the origin of~~ from where the request originated the at least part of the requested data retrieved from the local storage; and

- means [[of]] for updating the one second descriptor as a function of the at least part of the requested data ~~which has been sent~~ by the means for sending.

Claim 26 (currently amended): A device according to claim 25, further comprising, in ~~[[a]]~~ the server apparatus in the communication network, means ~~[[of]]~~ for sending to another server apparatus the updated second descriptor and the request ~~[[of]]~~ for data<sub>2</sub> which has been modified to take into account the at least part of requested data ~~which has been~~ previously sent by ~~[[said]]~~ the server apparatus.

Claim 27 (currently amended): A device according to claim 19, ~~further comprising, in~~  
wherein a client apparatus ~~[[in]]~~ is part of the communication network; and  
wherein the client apparatus includes:

- means ~~[[of]]~~ for receiving the first descriptor representative of the identified digital signal; and

- means ~~[[of]]~~ for storing the first descriptor in the local storage.

Claim 28 (currently amended): A device according to claim 27, ~~further comprising, in a~~  
wherein the client apparatus in the communication network~~[[,]]~~ includes means ~~[[of]]~~ for receiving a notification of availability of the data ~~relative~~ constituting the identified digital signal and corresponding to the unique identifier.

Claim 29 (currently amended): A device according to claim 27, ~~further comprising, in a~~  
wherein the client apparatus in the communication network~~[[,]]~~ includes means ~~[[of]]~~ for sending to at least one server apparatus at least one request containing the unique identifier.

Claim 30 (currently amended): A device according to claim 29, ~~further comprising, in a~~  
wherein the client apparatus in the communication network ~~for retrieving~~  
function to retrieve at least a part of the identified digital signal, and  
wherein the client apparatus includes:

- means ~~[[of]]~~ for receiving at least one second descriptor representative of ~~[[the]]~~ data locally present on at least one server; and
- means ~~[[of]]~~ for issuing at least one request ~~[[of]]~~ for data, directed to ~~[[said]]~~ the at least one server, as a function of the first descriptor and the at least one second descriptor.

Claim 31 (currently amended): A device according to claim 30, ~~further comprising, in a~~  
wherein the client apparatus in the communication network~~[[,]]~~ includes means ~~[[of]]~~ for receiving from at least one server at least part of the data constituting the identified digital signal and which has been specified in ~~[[the]]~~ a previously sent request ~~[[of]]~~ for data.

Claim 32 (currently amended): A device according to claim 27, ~~further comprising, in a~~  
wherein the client apparatus in the communication network~~[[,]]~~ includes means ~~[[of]]~~ for sending to at least one server at least one request ~~[[of]]~~ for data as a function of the received first descriptor, and the second descriptor representative of ~~[[the]]~~ data locally present on the client apparatus.

Claim 33 (cancelled).

Claim 34 (currently amended): A device according to claim ~~[[33]]~~ 19, wherein the first descriptor is representative of all available resolutions and their representation units (precincts) in a compressed format.

Claim 35 (currently amended): A device according to claim 34, wherein the second descriptor is representative of the units (precincts) of the compressed format (~~precincts~~) as referenced in the first descriptor.

Claim 36 (cancelled).

Claim 37 (currently amended): A ~~communication apparatus comprising~~ a device according to claim 19, wherein the device is incorporated in a communication apparatus.

Claim 38 (currently amended): An information storage ~~means which~~ medium that can be read by a computer or a microprocessor containing code instructions of a computer program for executing the steps of the method according to claim 1.

Claim 39 (currently amended): A partially or totally removable information storage ~~means which~~ medium that can be read by a computer or a microprocessor containing code instructions of a computer program for executing the steps of the method according to claim 1.

Claim 40 (currently amended): A computer program ~~loadable onto a programmable apparatus, comprising~~ product embodying sequences of instructions or portions of software code for implementing the steps of the method according to claim 1, when ~~said computer program is~~ the sequences of instructions or portions of software code are loaded and executed by ~~[[the]]~~ a programmable apparatus.

Claim 41 (new): A method according to claim 1,  
wherein the hierarchical structure of the second descriptor is organized in a tree that has nodes at different levels, and  
wherein the method further comprises a step of adding a marker indicating a presence of data at a node level of the hierarchical structure.

Claim 42 (new): A device according to claim 19,  
wherein the hierarchical structure of the second descriptor is organized in a tree that has nodes at different levels, and  
wherein a marker is used to indicate a presence of data at a node level of the hierarchical structure.

Claim 43 (new): A method according to claim 1, further comprising a step of updating each node of the hierarchical structure situated upstream of a current node.

Claim 44 (new): A device according to claim 19, further comprising means for updating each node of the hierarchical structure situated upstream of a current node.